

REMARKS

Entry of the foregoing and reexamination and favorable reconsideration of the subject application in light of the above amendments and the following remarks, pursuant to and consistent with 37 C.F.R. § 1.112, are respectfully requested.

On page 2 of the Official Action, Claims 29 and 22 were rejected under 35 U.S.C. §112, second paragraph, as indefinite.

In comment (a) on page 2 of the Official Action, claim 39 was rejected under 35 U.S.C. §112, second paragraph, for awkward wording. It is believed that the above amendments render this particular rejection moot.

In comment (b) on page 2 of the Official Action, Claim 29 was rejected under 35 U.S.C. §112, second paragraph. The Examiner requested clarification of the origin of the cake. Claim 29 has been amended in response to the rejection. Support for the amendment to Claim 29 is provided by the specification, such as the paragraph bridging pages 9 and 10.

In comment (c) on page 2 of the Official Action, claim 39 was rejected because it is allegedly unclear as to determine whether it is "appropriate" to add the remaining amount of the silicate. In this regard, applicants respectfully point out that claim 39 includes step A(i), wherein "at least a proportion of the total amount of silicate" is added to the reaction.

Applicants believe it is clear in view of this sequence of steps and in the language of the claim that the remainder of the silicate should be added during step A(iii), "if appropriate," or in other words, if only a proportion was used in step A(i). Therefore, applicants respectfully

request that this rejection as it pertains to this limitation of claim 39 be reconsidered and withdrawn.

Finally, in comment (d) on page 2 of the Official Action, claims 31 and 39 have been rejected under 35 U.S.C. §112, second paragraph, because the steps of the claimed processes do not appear to agree with the preambles. Comment (d) indicates that a further step in claims 31 and 39 of adding water "appears to be necessary." In this regard, applicants respectfully point out that water may be added, but this is not necessary.

For instance, in one embodiment, the filter cake may be converted into a suspension by washing the cake with organic solvents, drying the cake to obtain a silica powder, and subsequently suspending the silica powder in water (page 12, lines 1-9). However, the precipitation cake contains water molecules usually referred to as "structural water" because they occupy the spaces between the silica agglomerates. Thus a mechanical crumbling or a combination of a mechanical and chemical crumbling as disclosed in the specification (page 3, line 18 and page 11, line 2) will release the structural water contained in the cake and provide a suspension. In this case, the water trapped inside the cake becomes the suspension medium.

In view of the above amendments, reconsideration and withdrawal of all rejections under 35 U.S.C. §112, second paragraph is respectfully requested.

Claims 22-37 and 39-45 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Chevalier et al. (U.S. Patent No. 5,403,570). Applicants respectfully traverse the rejection.

On page 3 of the Official Action, it is asserted that it would have been obvious to one of ordinary skill in the art to form a silica product in the process of Chevallier having the claimed silica content because doing so makes a concentrated solution which is easy to handle, ship and use efficiently. For at least all the following reasons, applicants respectfully disagree.

The instant invention relates to an aqueous suspension of silica having high solids content; low viscosity; and good stability in time (page 1, lines 22-28).

The good stability in time is defined as the amount of silica present in the supernatant after centrifuging a silica suspension at 7,500 rpm for 30 minutes.

Chevalier relates to precipitated silica in the shape of granules, powders or beads, intended as a reinforcing filter material for elastomeric/rubbery matrices, and which has both a good capacity for dispersion and mechanical strength. The precipitated silica of Chevallier is produced by a method including a precipitation phase and a drying phase.

The precipitation phase includes steps (I) to (III) for preparing an aqueous suspension of precipitated silica. At the end of the precipitation phase, silica pulp is obtained and then separated to yield a filter cake. The filter cake is then disintegrated in a colloidal or ball-type mill.

Chevallier specifies that the disintegrating step of the filter cake is performed in order to reduce the viscosity of the filter cake and thus render it sprayable (column 4, lines 53-56; column 13, lines 49-54; column 22, lines 6-7 and 47-48; and column 25, lines 13-15). It

should be noted here that disintegrating the filter cake is sufficient to obtain a cake with a lower viscosity allowing it to be pumped, as disclosed by Chevalier.

However, Chevalier et al. does not disclose or suggest each feature of the present invention. For example, Chevallier et al. does not disclose or suggest a method including the step of deagglomerating a silica cake to obtain a suspension of silica having low viscosity and excellent stability in time.

In this regard, applicants have conducted comparative tests using a precipitation cake obtained according to the method of the invention and a filter cake obtained by the method of Chevalier et al. A detailed description of the tests is attached to the present amendment. If submission of a Declaration under 37 C.F.R. §1.132 including the attached testing results is required, applicants will submit such a declaration in due course. In this regard, applicants will greatly appreciate a phone call from the Examiner if such a declaration is needed.

The data presented in the attached document demonstrate the wide differences between the stability in time of a suspension obtained according to the instant invention and the stability of a suspension obtained by disintegrating the filter cake of Chevallier et al. While a suspension prepared according to the method disclosed by Chevallier et al. may have a viscosity appropriate to permit the suspension to be pumped and spray-dried after a very short treatment with ultrasounds, obtaining acceptable stability for such a suspension requires treatment with ultrasounds for at least 15 minutes.

In light of the results discussed above, and in view of the fact that Chevallier only purports to provide precipitated silica in a dry form, there is no motivation in the art of record

to perform a deagglomerating step under conditions necessary to obtain a silica suspension exhibiting not only a low viscosity but also a good stability in time.

Therefore, applicants respectfully submit that the features of the silica suspension of the instant invention, namely its low viscosity as well as the sedimentation properties thereof, are in no way suggested by Chevallier et al. Accordingly, there is no *prima facia* case of obviousness and the rejection should be withdrawn.

Finally, on page 3 of the Official Action, Claims 38 and 46 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chevallier as applied to claims 22-37 and 39-45 above, and further in view of Cox et al. (U.S. Patent No. 4,837,195). Specifically, the claims are allegedly unpatentable because it would be obvious to wash the product of Chevalier with the organic solvent of Cox because doing so makes the "pure material desired by Chevalier."

Cox et al. relates to a method of increasing the porosity of a porous silica body to be used in a chromatographic packing material. The silica forming the silica body is collected by filtration and washed with organic solvent.

Like Chevalier et al., Cox et al. does not disclose or suggest each feature of the invention. For example, Cox et al., alone or combined with Chevalier et al., does not disclose or suggest a method including the step of deagglomerating a silica cake to obtain a suspension of silica having low viscosity and excellent stability in time. Thus, even if proper, combining Chevalier et al. and Cox et al. as set forth in the Official Action, does not lead to the present invention. The silica suspension prepared according to chevalier et al. does not

have all the features of the silica suspension of the instant invention, whether the silica is washed with an organic solvent according to Cox et al. or not.

Accordingly, for at least all the above reasons, neither Chevalier et al. nor Cox et al., either alone or in combination, discloses or suggests each of the features of the presently claimed invention. As a result, there is no *prima facie* case of obviousness. Therefore, the rejections should be withdrawn.

From the forgoing, further and favorable action in the form of a notice of allowance is believed to be next in order, and such action is earnestly solicited.

If the Examiner has any questions concerning this Reply, or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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